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Soil moisture measurement.—The water content of the soil has long been recognized as the most important edaphic factor in limiting the occurrence and permanence of plant associations, but it has always been difficult to measure such a factor in terms that could be related to plant production. CRUMP,[17] in his studies of the vegetation of peat soils, has devised a method of expressing the relative humidity of these soils in such a manner that a definite index of water as an ecological factor is obtained. This index he has termed the "coefficient of humidity," and it seems, for the habitats studied, to be a constant whose value may be determined for any given plant association. In obtaining this constant, the amount of water present in any soil is expressed in terms of percentage of the dry weight at 15° C., and the humus-content being determined in the usual way by combustion, the ratio of the water-content is obtained in terms of the humus-content as follows:

$$\frac{\text{water-content}}{\text{humus-content}} = \text{coefficient of humidity}$$

This coefficient is shown to vary directly with the amount of water available for the use of the vegetation of a habitat, and the investigator believes it to be a true integration of the relative humidity of the soil of different areas. He admits, however, that his methods will not apply to sandy soils with small humus-content, and probably not to many clays, although he has devised a correction which permits it to be used for sub-peats containing large amounts of sand.

Applying this unit of measurement to certain moor plant associations, he finds[18] that the mean coefficients of humidity for the *Eriophorum* moor, the *Calluna* moor, and the *Molinia* moor of the Southern Pennines to be respectively 6, 3.3, and 2; and thus he is able to institute a direct comparison between the water conditions of these associations and others in the same formation.

It would seem that as the result of these investigations the ecologist has been given a most important method of expressing soil moisture, far in advance of anything before available, and it is to be hoped that it will be found to be applicable to a great variety of soils.—GEO. D. FULLER.

Chromosomes in Allium.—In the nuclei of *Allium Cepa* BONNEVIE[19] has described a large chromatin knot from which the chromatin threads radiate. In the presynaptic stages in the pollen mother cells these threads become paired. From a comparison with the origin and behavior of similar radial threads in

[17] CRUMP, W. B., The coefficient of humidity: a new method of expressing the soil moisture. New Phytol. 12:125–147. 1913.

[18] CRUMP, W. B., Notes on water content and the wilting point. Jour. Ecol. 1:96–100. 1913.

[19] BONNEVIE, K., Chromosomenstudien. III. Chromatinreifung in *Allium Cepa* (♂). Arch. f. Zellforschung 6:190–253. *pls. 10–13.* 1911.